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東京大学理学部 1 号館西棟 11 階 1109 号室 (天文学専攻会議室) にて

“N-body simulations of stellar systems: star clusters and disk galaxies”

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N-body simulations are a powerful tool to investigate the dynamical evolution of stellar systems such as star clusters and galaxies. I will show my recent works on 1. the formation of star clusters and 2. the dynamical evolution of galactic disks. For star cluster simulations, we developed a new method to construct initial conditions which resemble observed star forming regions. Using this method, we show the formation processes of observed star clusters and associations. For disk galaxies, we performed a numerical survey of stellar disks with a wide range of parameters. Our simulations were performed with the largest number of particles using GPU clusters. We found that swing amplification describes the formation of spiral arms and bars of galactic disks.